



What are the risks to a Rocky Flats National Wildlife Refuge visitor?

The refuge portion of the site is part of the former Buffer Zone of the Rocky Flats Plant, a security perimeter area added in the 1970s. Areas within the refuge were never used for processing, storage or disposal activities, and sampling confirms they are unaffected by site activities from a hazardous waste perspective; that is, no hazardous wastes or constituents have been placed in or migrated to the area that is now the refuge. In the majority of the refuge, where no contaminants of concern were identified, risks are similar to background conditions.

Low-level wind-blown radiological contamination does occur in a small area of the refuge. Plutonium has been measured above background levels at a few surface soil sampling locations west of the former east entrance to the site; the highest sampling result is about 20 pCi/g. Even if that level were widespread, it would correspond to a risk of excess cancer of approximately only two in one in a million for a refuge worker or visitor and approximately one in one hundred thousand for a rural resident. These risks are respectively in the very low end or the middle of the acceptable Superfund risk range (one in 10,000 to one in a million). There is essentially no plutonium in the subsurface soils of the refuge.

The average concentration of plutonium in the surface soil of the refuge portion of the site is 1.1 picocuries (trillionths of a curie) per gram (pCi/g). That concentration equates to an excess cancer risk below one in a million for a refuge visitor or worker, or even a resident. Measured on a basis of radiological dose, the estimated exposure to plutonium in surface soil in the area of windblown contamination by a refuge visitor is 0.3 millirem for an adult and 0.2 millirem for a child. These levels of radiological dose are far below the 25 millirem per year dose criterion specified in the Colorado Standards for Protection Against Radiation.

Background cancer risk from naturally-occurring metals at the site also exists. An evaluation of this risk included all detected metals for which toxicity criteria were available. The background cancer risk for the refuge worker and refuge visitor from these naturally-occurring metals is approximately two in a million.

Because of these very low concentrations, no remediation was required in the refuge portion of the site. The final decision for the refuge portion of the site was based on an abundance of data and risk assessments demonstrating that risks to future refuge visitors and workers are extremely low. According to regulatory requirements and guidance, EPA and the Colorado Department of Public Health and Environment agreed that the refuge lands, including the highway right-of-way, could be available for unrestricted uses and unlimited exposure (Corrective Action Decision/Record of Decision, 2006).